Earth Science and Astronomy
### Week 1: The Earth/ Gravity

<table>
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<tr>
<th>Planet Earth (all)</th>
<th>Kingfisher Science (older)</th>
<th>1st Enc. of Our World (younger)</th>
<th>Experiments (Earth Science)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg.10-13</td>
<td>pg.2-3</td>
<td>pg.4-7,10,12-13</td>
<td>#1 Bulging Ball, #5 Tilt</td>
<td>*Gravity All Around-A *Zero Gravity-O *I Fall Down-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** construction paper, scissors, hole punch, ruler, paper, glue, pencil; ball of clay the size of an apple, 2 pencils, flashlight

**Vocabulary:** Equator, gravity

**Memory work:** four seasons (winter, spring, summer, fall), hemispheres (northern, southern)

- **left side** - make a chart of the months in each season for each the northern and southern hemispheres

- **right side** - copy and paste page one from the following link:  

**Scientist:** scientist study will begin on week 3

### Week 2: Layers of the Earth/ Land, Water, and Air

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</tr>
</thead>
</table>

**Supplies for experiments:** pen, 1 raw egg, 1 hard cooked egg; 3 different colors of clay, 1 straw, fingernail scissors

**Vocabulary:** The Mohole project, the water cycle

**Memory work:** layers of the earth (inner core, out core, mantle, oceanic crust, continental crust)

- **left side** - list the layers from the innermost layer to the outermost layer and describe the composition of each layer

- **right side** - copy and paste page one from the following link (note: continental crust and oceanic crust are not separate on this page):  

**Scientist:** scientist study will begin on week 3
### Week 3: Earthquakes/Volcanoes

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<thead>
<tr>
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</tr>
</thead>
</table>
| pg. 18-21         | pg. 18-21                 | pg. 22-25                       | #22 Rub-A-Dub, #32 Detector | *Volcanoes and Earthquakes-DK Eyewitness Books-A  
*Earthquake in the Early Morning -O  
Pompeii...Buried Alive! -Y |

**Supplies for experiments:** cardboard, glass pop bottle, scissors, refrigerator, cup of water; jar, felt tip marker, rubberband, masking tape, scissors, wax paper, ruler  
**Vocabulary:** shock waves, hot spots  
**Memory work:** the parts of a volcano (magma chamber, vent, volcanic cone, lava flow, ash and smoke cloud  
  - **left side:** list parts of a volcano and describe them  
  - **right side:** print volcano book and label any parts that are not already labeled  
**Scientist:** Begin reading about Aristotle in *Aristotle and Scientific Thought*. Read the introduction and chapter 1. Start the scientist notebooking pages. Use this website for help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/aristotle.html](http://www.sciencekids.co.nz/sciencefacts/scientists/aristotle.html).

### Week 4: Mountains/ Bending and Breaking

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</tr>
</thead>
</table>
| pg. 26-29         | pg. 22-23                 | pg. 30-31                       | #30 Folds, #52 Up & Down    | *How Mountains Are Made-A  
*Mountains (O'Mara)-O  
The Lure of Mountain Peaks-Y |

**Supplies for experiments:** 4 paper towels, glass of water; wooden block, clear container twice as big as block, sand, masking tape, marking pen, ruler, 1 T. spoon  
**Vocabulary:** mountain roots, mountain belts  
**Memory work:** types of faults (normal, reverse, strike-slip, oblique)  
  - **left side:** list the fault types and describe them  
  - **right side:** divide a piece of plain white paper into 4 equal squares and illustrate the fault types (using pg. 28 in Planet Earth as a model)  
**Scientist:** Continue reading about Aristotle in *Aristotle and Scientific Thought*. Read chapters 2 & 3. Continue the scientist notebooking pages. Use this website for help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/aristotle.html](http://www.sciencekids.co.nz/sciencefacts/scientists/aristotle.html).
### Week 5: Rocks

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<th>Extra Reading Books</th>
</tr>
</thead>
</table>
| pg. 30-31          | pg. 24-25, 28-31          | pg. 20                          | #14 Crunch, #15 Sediment. Sandwich | *A Rock is Lively-A  
*MSB:Rocky Road Trip-O  
*Let's Go Rock Collecting-Y |

**Supplies for experiments:** 20 flat toothpicks, book; 2 bread slices, crunchy peanut butter, jelly, knife, plate

**Vocabulary:** petrologists, marble

**Memory work:** types of rocks (igneous, sedimentary, and metamorphic
left side- list the rock types and describe how they are formed
right side- divide a piece of paper into three sections, list each rock type and some examples of that rock type, draw an example of the rock


### Week 6: Minerals and Gems

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<th>Extra Reading Books</th>
</tr>
</thead>
</table>
| pg. 32-33          | pg. 26-27                 |                                 | #9 Needles, #16 Line-Up     | *DK Eyewitness:Crystals & Gems-A  
*Rocks & Minerals: Crystals (Stewart)-O  
*Rock Stars: Minerals-Y |

**Supplies for experiments:** 1 C. measuring cup, Epsom salt, 1 T. measuring spoon, scissors, black construction paper, lid from a large jar; paper towels

**Vocabulary:** gemstone, crystal systems

**Memory work:** ways to identify a mineral (hardness, color, density, the way they reflect light, and the way they break)
left side- list the ways to identify minerals and describe each
right side- divide a piece of paper into 5 parts, list the ways to identify minerals and draw what tools or techniques may be used to accomplish these tests (this website may be helpful [http://www.rocksforkids.com/RFK/identification.html](http://www.rocksforkids.com/RFK/identification.html))

### Week 7: Shaping the Earth/ Ice at Work

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<thead>
<tr>
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<th>Experiments (Earth Science)</th>
<th>Extra Reading Books</th>
</tr>
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<tbody>
<tr>
<td>pg. 36-39</td>
<td>pg.32-35</td>
<td>pg. 40-41, 50-51</td>
<td>#11 Dripper, #48 Crack-Up</td>
<td>*Caves and Caverns (Gibbons)-A  *The Glaciers are Melting!-O *Glaciers (Zappa)-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** Epsom salt, 2 small jars, cotton string, scissors, 2 washers, spoon, ruler, paper; drinking straw, modeling clay, freezer, glass of water

**Vocabulary:** erosion, glacier

**Memory work:** parts of a cave (stalactites, stalagmites, and columns)

- **left side:** list the parts and describe how each is made
- **right side:** draw a picture of a cave and be sure to include at least one stalactite, stalagmite, and column

**Scientist:** Begin reading about Charles Darwin in One Beetle Too Many. Read “One Beetle Too Many” and “Anatomy, Theology, and Botany”. Begin the scientist notebooking pages. Use this website for help if necessary http://www.sciencekids.co.nz/sciencefacts/scientists/charlesdarwin.html.

### Week 8: The Seas and the Seashore

<table>
<thead>
<tr>
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<th>Experiments (Earth Science)</th>
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</tr>
</thead>
</table>

**Supplies for experiments:** 2 colors of modeling clay, plastic soft drink bottle, 2 books; writing paper, pencil with eraser

**Vocabulary:** continental shelf, ocean currents

**Memory work:** the names of the oceans from biggest to smallest (Pacific, Atlantic, Indian, Antarctic, Arctic)

- **left side:** list the oceans from biggest to smallest and the surface area of each
- **right side:** print off the following map (make sure it is without ocean labels), then label the oceans on the map http://www.worksheetworks.com/geography/world/robinson/oceans-continents.html

**Scientist:** Continue reading about Charles Darwin in One BeetleToo Many. Read “The Voyage of a Lifetime Begins” and “Butterflies and Gauchos”. Continue the scientist notebooking pages. Use this website for help if necessary http://www.sciencekids.co.nz/sciencefacts/scientists/charlesdarwin.html.
### Week 9: Rivers, Lakes, and Swamps

<table>
<thead>
<tr>
<th>Supplies for experiments:</th>
<th>Pencil, paper cup, straw, clay, 1 ft. cardboard square, 1 gallon jug and water; paper cup, pencil, drinking straw, modeling clay, 1 ft. cardboard square, dirt, rocks, 1 gallon jug with water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary:</td>
<td>Oxbow lake, meander</td>
</tr>
</tbody>
</table>
| Memory work:             | The 5 Great Lakes (Huron, Ontario, Michigan, Erie, Superior)  
 left side- list the Great Lakes and list which states or countries they border (use this website if needed [http://www.great-lakes.net/teach/chat/answers/greatlakesmap.html](http://www.great-lakes.net/teach/chat/answers/greatlakesmap.html))  
 right side- print this blank map and fill in the lakes (underlining the first letter of each name to emphasize the mnemonic device “HOMES”) and the states/ countries that are borders [http://www.worldatlas.com/webimage/testmaps/glkoutline.htm](http://www.worldatlas.com/webimage/testmaps/glkoutline.htm) |
| Scientist:               | Continue reading about Charles Darwin in *One Beetle Too Many*. Read “Seashells on Mountaintops” and “Galapagos Islands”. Continue the scientist notebooking pages. Use this website for help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/charlesdarwin.html](http://www.sciencekids.co.nz/sciencefacts/scientists/charlesdarwin.html). |

### Week 10: The Atmosphere/ Forecasting the Weather

<table>
<thead>
<tr>
<th>Supplies for experiments:</th>
<th>Paper clip, 4in X 12in cardboard piece, 2 rubberbands, pencil, paper cup, 12 in. string, marker, soil; pencil, 4 cups (5oz), 2 straws, a pin, masking tape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary:</td>
<td>Air, Chaos theory</td>
</tr>
</tbody>
</table>
| Memory work:             | Layers of the atmosphere (troposphere, stratosphere, mesosphere, thermosphere)  
 left side- list the layers, their distances, and any other characteristics  
 right side- fill out the worksheet on page 2 of the following link [http://tolmanadvisory.weebly.com/science.html](http://tolmanadvisory.weebly.com/science.html) (about 2/3 down the page is a pdf for atmosphere- print either just page 2 or pages 1 and 2 to use) |
**Week 11: Winds, Storms, and Clouds**

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<th>Extra Reading Books</th>
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<tbody>
<tr>
<td>pg. 54-57</td>
<td>pg. 40-41, 44-45</td>
<td>pg. 17-19</td>
<td>#47 Fly Away, #91 Twirler</td>
<td>*Cloud Dance-A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Twister Trouble-O</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Magic School Bus Rides Wind-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** paper hole punch, sheet of paper, shallow baking dish, bowl of water; construction paper, scissors, pencil, ruler, eyedropper

**Vocabulary:** Beaufort Wind Scale, fog

**Memory work:** the types of clouds (alto-cumulus, alto-stratus, cirro-cumulus, cirro-stratus, cirrus, cumulo-nimbus, cumulus, fog, nimbo-stratus, stratus, strato-cumulus)

- **Left Side:** list the cloud types starting from the highest elevation
- **Right Side:** print the worksheet on the following page and label the clouds [link](http://www.enchantedlearning.com/subjects/astronomy/activities/label/clouds/)


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**Week 12: Rain and Snow**

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<th>Extra Reading Books</th>
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</thead>
<tbody>
<tr>
<td>pg. 58-59</td>
<td>pg. 38-39</td>
<td>pg. 16-17</td>
<td>#43 Run Off, #75 Bigger</td>
<td>*Down Comes the Rain-A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Blizzard (Cole)-O</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*It's Snowing!-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** dirt, red powdered paint, 1 t. measuring spoon, funnel, coffee filter paper, wide mouth jar, 1 C. measuring cup, stirring spoon; plastic see-through lid, eye dropper, pencil

**Vocabulary:** hailstones, sun's halo

**Memory work:** types of precipitation (rain, snow, hail, freezing rain, sleet)

- **Left Side:** list the types of precipitation going from the warmest to the coldest
- **Right Side:** print page 1 of the following link (the types of precipitation) [link](http://www.kid-friendly-homeschool-curriculum.com/weather-worksheets.html#TypesPrecipitation)

*use the information on page 2 to help fill in the chart if necessary

### Week 13: Climate

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<tbody>
<tr>
<td>pg. 52-53</td>
<td>pg. 36-37</td>
<td>pg. 14-15, 60-61</td>
<td>#99 Super Cooled #61 Which Way</td>
<td>*What is a Biome?-A *It Never Rains in Antarctica-O *Exploring Ecosystems-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** 2 paper cups, table salt, 1 T. measuring spoon, pen, freezer; flashlight, 1 sheet of dark paper

**Vocabulary:** jet streams, monsoons

**Memory work:** types of fronts (cold, warm, stationary, occluded)

- **Left Side:** list the front types in alphabetical order and describe each (use pages from link below if necessary)
- **Right Side:** print and complete the worksheets on the following link and glue finished product into notebook [http://thewisenest.com/weather-fronts-self-check-worksheet.html](http://thewisenest.com/weather-fronts-self-check-worksheet.html)


### Week 14: Polar Regions and Tundra

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<th>Experiments</th>
<th>Extra Reading Books</th>
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</thead>
<tbody>
<tr>
<td>pg. 64-65</td>
<td>pg. 48-49</td>
<td>Tundra notebook pages</td>
<td></td>
<td>*Explore the Tundra-A *Penguin Puzzle-O *Tundra (Stone)-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** print off and complete tundra notebooking pages

**Vocabulary:** icebergs, permafrost

**Memory work:** lines of latitude (Arctic Circle, Tropic of Cancer, Equator, Tropic of Capricorn, Antarctic Circle)

- **Left Side:** list the lines going from the top of the globe to the bottom and the degree of latitude where they are located
- **Right Side:** print a map from the following page and fill in the lines of latitude (be sure to create a map without the Equator or tropics and circles) [http://www.worksheetworks.com/geography/world/robinson/coordinate.html](http://www.worksheetworks.com/geography/world/robinson/coordinate.html)

**Week 15: Temperate Woodland**

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<tbody>
<tr>
<td>pg. 66-67</td>
<td></td>
<td></td>
<td></td>
<td>*Explore the Deciduous Forest-A *What Is a Forest?-O *Forests (Stone)-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** print off and complete deciduous forest pages

**Vocabulary:** deforestation, nitrogen cycle

**Memory work:** the life cycle of a tree (seed, seedling, adult tree, flower, fruit)

- **Left Side:** list each step in the cycle in the order they occur
- **Right Side:** print off and complete the worksheet called “Life Cycle of a Tree” from the following link [http://www.colorwithleo.com/print-puzzles.php](http://www.colorwithleo.com/print-puzzles.php)

**Scientist:** Begin reading about John Wesley Powell from *In Search of the Grand Canyon*. Read pg.3-18. Begin the scientist notebooking pages. Use this website for help if necessary [http://historytogo.utah.gov/people/johnwesleypowell.html](http://historytogo.utah.gov/people/johnwesleypowell.html).

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**Week 16: Grasslands**

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<th>Experiments</th>
<th>Extra Reading Books</th>
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</thead>
<tbody>
<tr>
<td>pg. 68-69</td>
<td></td>
<td>pg. 144-145</td>
<td>*Explore the Grasslands-A *Life in the Grasslands-O *Here is the African Savannah-Y</td>
<td></td>
</tr>
</tbody>
</table>

**Supplies for experiments:** print off and complete savanna notebook pages

**Vocabulary:** slash and burn, the Dust Bowl

**Memory work:** layers of the soil (humus, topsoil, subsoil, bedrock)

- **Left Side:** write and describe the composition of the 4 layers of soil (this link may help, but they do add another level called the parent material [http://school.discoveryeducation.com/schooladventures/soil/down_dirty.html](http://school.discoveryeducation.com/schooladventures/soil/down_dirty.html))
- **Right Side:** print and complete the soil flip book on the following link [http://thirdgradethinkers8.blogspot.com/2012/05/science-soil-study-layers-of-soil.html](http://thirdgradethinkers8.blogspot.com/2012/05/science-soil-study-layers-of-soil.html)

**Scientist:** Continue reading about John Wesley Powell from *In Search of the Grand Canyon*. Read pg.18-31. Continue the scientist notebooking pages. Use this website for help if necessary [http://historytogo.utah.gov/people/johnwesleypowell.html](http://historytogo.utah.gov/people/johnwesleypowell.html).
### Week 17: Deserts

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<th>Planet Earth (all)</th>
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<th>Experiments (Earth Science)</th>
<th>Extra Reading Books</th>
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</table>

**Supplies for experiments:** print off and complete desert notebooking pages  
**Vocabulary:** sand dunes, oases  
**Memory work:** life cycle of a plant (seed, germinated seed, seed with root, seedling, flowering plant, fruiting plant)  
  - **Left Side:** list each step in the cycle  
  - **Right Side:** print out and complete the following page  
**Scientist:** Continue reading about John Wesley Powell from *In Search of the Grand Canyon*. Read pg.32-47. Continue the scientist notebooking pages. Use this website for help if necessary [http://historytogo.utah.gov/people/johnwesleypowell.html](http://historytogo.utah.gov/people/johnwesleypowell.html).

### Week 18: Tropical Rainforest

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<th>Planet Earth (all)</th>
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<th>Experiments (Earth Science)</th>
<th>Extra Reading Books</th>
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</thead>
<tbody>
<tr>
<td>pg. 72-73</td>
<td>pg. 438-439</td>
<td>pg. 46-47</td>
<td>Tropical Rainforest pages</td>
<td>*If I Ran the Rainforest-A *Afternoon on the Amazon-O *The Rainforest Grew All Around-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** print off and complete tropical rainforest pages  
**Vocabulary:** erosion, mangrove swamps  
**Memory work:** layers of the rainforest (emergent layer, canopy, understory, forest floor)  
  - **Left Side:** write out the layers from top to bottom and list the height of each level (you can use page 2 of the following link [http://www.kbteachers.com/weather-and-climate/the-rainforest-worksheet.html](http://www.kbteachers.com/weather-and-climate/the-rainforest-worksheet.html))  
  - **Right Side:** print page 1 from the following worksheets and complete it [http://www.kbteachers.com/weather-and-climate/the-rainforest-worksheet.html](http://www.kbteachers.com/weather-and-climate/the-rainforest-worksheet.html)  
**Scientist:** Finish reading about John Wesley Powell from *In Search of the Grand Canyon*. Read pg.48-64. Finish the scientist notebooking pages. Use this website for help if necessary [http://historytogo.utah.gov/people/johnwesleypowell.html](http://historytogo.utah.gov/people/johnwesleypowell.html).
### Week 1: The Solar System

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<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
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</thead>
</table>
| pg. 12-13           | pg. 398-399                 | pg. 28-29                   | #4 Too Close, #5 Quicker| *The Planets in Our Solar System -A*  
*Space Explorers (Cole) -O*  
*The Magic School Bus, Lost in the Solar System -Y* |

**Supplies for experiments:** 2 thermometers, 1 desk lamp, yard stick; yard stick, ruler, modeling clay

**Vocabulary:** elliptical orbit, nebulae

**Memory work:** the planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune)

- **Left Side:** list the planets in order starting with the planet closest to the sun
- **Right Side:** print off the planet worksheet on the following link and label the planets

http://www.enchantedlearning.com/subjects/astronomy/activities/label/labelsolarsystem.shtml

**Scientist:** Begin reading about Galileo Galilei in *Starry Messenger*. Read the first half. Begin the scientist notebooking pages. Use this website for help if necessary http://www.sciencekids.co.nz/sciencefacts/scientists/galileogalilei.html.

### Week 2: The Sun

<table>
<thead>
<tr>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
</table>
| pg. 14-17           | pg. 394-395                 | pg. 32-33                   | #38 Swirls, #41 Mirage  | *The Sun (Bourgeois) -A*  
*Sun (Rau) -O*  
*Hot and Bright -Y* |

**Supplies for experiments:** clear plastic ball point pen, 1 sheet of typing paper; small clear bowl, modeling clay, coin, water, a helper

**Vocabulary:** flares, eclipse

**Memory work:** layers of the sun (core, radiative zone, convective zone, photosphere, chromosphere, corona)

- **Left Side:** list the layers from the inside to the outside
- **Right Side:** print and complete the worksheet from the following link


**Scientist:** Continue reading about Galileo Galilei in *Starry Messenger*. Read the second half. Continue the scientist notebooking pages. Use this website for help if necessary http://www.sciencekids.co.nz/sciencefacts/scientists/galileogalilei.html.
### Week 3: Mercury/ Venus

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>1st Enc. Of Space (younger)</th>
<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
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<tr>
<td>pg. 20-23</td>
<td>pg.403-404</td>
<td>pg. 34-35</td>
<td>#6 Hidden, #8 Thick</td>
<td>*KYK Solar System (pg. 12-15)-A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Mercury and Venus (Thomas)-O</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>*Mercury and Venus (Kerrod)-Y</td>
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</tbody>
</table>

**Supplies for experiments:** desk lamp, pencil; flashlight, wax paper

**Memory work:** complete a characteristics chart for each planet

- **Left Side:** list diameter, mass, density, minimum distance to the sun, maximum distance to the sun, day/night length, length of a year, tilt of axis, surface gravity, temperature, satellites

- **Right Side:** draw a picture of each planet using Visual Factfinders as a guide

**Scientist:** Continue reading about Galileo Galilei in *I, Galileo*. Read the first half. Continue the scientist notebooking pages. Use this website for help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/galileogalilei.html](http://www.sciencekids.co.nz/sciencefacts/scientists/galileogalilei.html).

### Week 4: The Earth

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
<th>Kingfisher Science (older)</th>
<th>1st Enc. Of Space (younger)</th>
<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg. 24-25</td>
<td>pg.400</td>
<td>pg. 6-7</td>
<td>#12 Blue Sky, #42 Direct</td>
<td>*Earth and Earth's Moon (World Book)-A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Earth (Hunter)-O</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Earth (Kipp)-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** flashlight, drinking glass, eye dropper, milk, spoon; 2 sheets of black construction paper, 2 thermometers, 2 books, masking tape

**Memory work:** complete a characteristics chart for each planet

- **Left Side:** list diameter, mass, density, minimum distance to the sun, maximum distance to the sun, day/night length, length of a year, tilt of axis, surface gravity, temperature, satellites

- **Right Side:** draw a picture of each planet using Visual Factfinders as a guide

**Scientist:** Finish reading about Galileo Galilei in *I, Galileo*. Read the second half. Finish the scientist notebooking pages. Use this website for help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/galileogalilei.html](http://www.sciencekids.co.nz/sciencefacts/scientists/galileogalilei.html).
### Week 5: The Moon

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
<th>Kingfisher Science (older)</th>
<th>1st Enc. of Space (younger)</th>
<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
</table>
| pg. 26-29           | pg.401                      | pg. 30-31, 56               | #52 Changes, #54 Face Forward | *If You Decide to Go to the Moon-A  
*The Best Book of the Moon-O  
*The Moon Book-Y |

**Supplies for experiments:** styrofoam ball (apple size), pencil, lamp; 2 sheets of paper, marker, masking tape

**Vocabulary:** moon crater, moon rocks

**Memory work:** the phases of the moon (new moon, waxing crescent, half moon, waxing gibbous, half moon, waning crescent, new moon)

- **Left Side:** list the moon phases in order
- **Right Side:** print and complete pg. 4 of the moon phases worksheets on the following link [http://www.exploringnature.org/db/detail.php?dbID=42&detID=2856](http://www.exploringnature.org/db/detail.php?dbID=42&detID=2856)

**Scientist:** Begin reading about Johannes Kepler in *Great Minds of Science: Johannes Kepler*. Read pg.5-24 . Begin the scientist notebooking pages. Use the following website or help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html](http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html).

### Week 6: Mars/Jupiter

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
</table>
| pg. 30-33           | pg.405-406                  | pg. 36-38                   | #13 Back Up, #16 Glimmer | *KYK Solar System (pg. 22,23,26,27)-A  
*You Are the First Kid on Mars-O  
*Journey to Mars-Y |

**Supplies for experiments:** a helper; flashlight, baby powder in a plastic shaker

**Memory work:** complete a characteristics chart for each planet

- **Left Side:** list diameter, mass, density, minimum distance to the sun, maximum distance to the sun, day/night length, length of a year, tilt of axis, surface gravity, temperature, satellites
- **Right Side:** draw a picture of each planet using Visual Factfinders as a guide

**Scientist:** Continue reading about Johannes Kepler in *Great Minds of Science: Johannes Kepler*. Read pg.25-48 . Continue the scientist notebooking pages. Use the following website or help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html](http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html).
### Week 7: Saturn/Uranus

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
</table>

**Supplies for experiments:** ruler, white poster board, black marking pen, scissors, straight pin, pencil, glue; record, sugar, 2 pencils, masking tape, record player

**Memory work:** complete a characteristics chart for each planet

- **Left Side:** list diameter, mass, density, minimum distance to the sun, maximum distance to the sun, day/night length, length of a year, tilt of axis, surface gravity, temperature, satellites
- **Right Side:** draw a picture of each planet using Visual Factfinders as a guide

**Scientist:** Continue reading about Johannes Kepler in *Great Minds of Science: Johannes Kepler*. Read pg. 49-80. Continue the scientist notebooking pages. Use the following website or help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html](http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html).

### Week 8: Neptune/Pluto & Beyond

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
<th>Kingfisher Science (older)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
</table>

**Supplies for experiments:** thermos bottle, 2 drinking cups, 2 thermometers, 1 qt. Wide mouth jar w/ lid, 5 or 6 ice cubes, stirring spoon; ruler, scissors, heavy thick string, 4 large paper clips, cardboard, sheet of paper, cake pan (10 in.), pencil

**Memory work:** complete a characteristics chart for each planet

- **Left Side:** list diameter, mass, density, minimum distance to the sun, maximum distance to the sun, day/night length, length of a year, tilt of axis, surface gravity, temperature, satellites
- **Right Side:** draw a picture of each planet using Visual Factfinders as a guide

**Scientist:** Finish reading about Johannes Kepler in *Great Minds of Science: Johannes Kepler*. Read pg. 81-108. Finish the scientist notebooking pages. Use the following website or help if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html](http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html).
Week 9: Minor Planets/ Meteoroids

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>1st Enc. of Space (younger)</th>
<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg. 42-43</td>
<td>pg. 413</td>
<td>pg. 44-45</td>
<td>#24 On the Move, #53 Plop!</td>
<td>*Asteroids, Comets, and Meteors-A *Beyond Pluto-O *Space Leftovers-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** round cake pan, 1 sheet construction paper, scissors, 1 marble; 25 sheets newspaper, 2 sheets carbon paper, 2 sheets typing paper, 1 golf ball

**Vocabulary:** asteroid belt, asteroids

**Memory work:** types of meteors (meteor, exploding meteor, meteor shower, meteorite)

- **Left Side:** list each type and describe it
- **Right Side:** divide a piece of paper into 4 sections and illustrate each meteor type (using pg. 43 in Visual Factfinders)


Week 10: Comets

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg. 44-45</td>
<td>pg. 412</td>
<td></td>
<td>#83 Light Meter, #93 Darkness</td>
<td>*Comets and Meteors (Kerrod)-A *Comets (Vogt)-O *Comets and Meteor Showers (Sipiera)-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** yardstick, shoe box, foil, wax paper, scissors, cellophane tape, flashlight; flashlight

**Vocabulary:** Halley's Comet, Giotto spaceprobe

**Memory work:** the periods of a comet (short-period, long-period)

- **Left Side:** list and describe the length of the comet periods
- **Right Side:** divide a piece of paper in 2 columns and list characteristics of each period using this website [http://spaceguard.iasf-roma.inaf.it/NScience/neo/neo-what/com-prop.htm](http://spaceguard.iasf-roma.inaf.it/NScience/neo/neo-what/com-prop.htm).

**Scientist:** Continue reading about Edwin Hubble in *Edwin Hubble: American Astronomer*. Read pg.35-54. Continue the scientist notebooking pages. Use the following website to help you if necessary [http://www.sciencekids.co.nz/sciencefacts/scientists/edwinhubble.html](http://www.sciencekids.co.nz/sciencefacts/scientists/edwinhubble.html).
### Week 11: The Milky Way

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg. 46-49</td>
<td>pg. 390-391</td>
<td>pg. 52-53, 57</td>
<td>#67 Hazy, #71 Spirals</td>
<td>*The Milky Way and Other Galaxies (Rau)-A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Galaxies (Welsbacher)-O</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*The Milky Way (Rustad)-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** paper hole punch, black construction paper, white paper, glue, masking tape; 1 sheet paper, paper hole punch, 1 qt. Jar, pencil, water

**Vocabulary:** Milky Way, quasars

**Memory work:** types of galaxies (irregular, elliptical, ordinary spiral, barred spiral)

- **Left Side:** list and describe each galaxy type
- **Right Side:** divide a black piece of paper into 4 parts and use chalk, a white crayon, or a white colored pencil to draw the types of galaxies from pg. 48 in Visual Factfinders


### Week 12: Stars

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>1st Enc. of Space (younger)</th>
<th>Experiments (Astronomy)</th>
<th>Extra Reading Book</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg. 52-59</td>
<td>pg. 392-393</td>
<td>pg. 48-51</td>
<td>#60 Shrinking, #62/63 Spreader/Brighter</td>
<td>*How Far is a Star?-A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Stars (Vogt)-O</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Stargazers-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** 2 small balloons, 2 large-mouthed glass jars, refrigerator, marking pen; 2 flashlights, foil, pencil, 2 sheets of blank paper

**Vocabulary:** black hole, star cluster

**Memory work:** the sizes of stars (supergiants, giants, red giants, dwarf, white dwarf)

- **Left Side:** list the stars from biggest to smallest and describe each type
- **Right Side:** print and complete pages 10 & 11 (info to complete it is on page 1) on the following link [http://www.homeschoolshare.com/space_lapbook.php](http://www.homeschoolshare.com/space_lapbook.php) (the download marked “Sun, Moon, and Stars”)

**Week 13: Constellations**

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg. 60-62</td>
<td>pg.396-397</td>
<td>pg.57</td>
<td>#59 Star Clock, #66 Box Planetarium</td>
<td>*The Glow in the Dark Night Sky Book-A *Seeing Stars (Muirden)-O *The Big Dipper (Branley)-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** solid colored & dark umbrella, white chalk; shoe box, black construction paper, cellophane tape, flashlight, straight pin, scissors

**Vocabulary:** celestial sphere, constellation

**Memory work:** 12 Zodiac signs
- **Left Side** - list the signs in order and what symbol the star pattern creates
- **Right Side** - divide a black piece of paper into 12 sections and use chalk, colored pencil, or crayon to draw each constellation using the following link for help if necessary [http://mcsmearthscience.blogspot.com/2012/12/3rd-marking-period-homework.html](http://mcsmearthscience.blogspot.com/2012/12/3rd-marking-period-homework.html)


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**Week 14: Birth of Astronomy**

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg. 64-65</td>
<td>pg. 414-415, 426-427</td>
<td></td>
<td>#61 Distant Stars, #72 Star Chart</td>
<td>*DK Astronomy-A *Kingfisher Facts &amp; Records Book of Space-O *Solving the Mysteries of Stonehenge-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** your thumb, modeling clay, pencil; white poster paper, string, large nail, marker, a helper

**Vocabulary:** Stonehenge, ziggurat

**Memory work:** Kepler's laws of planetary motion
- **Left Side** - write the three laws in your own words using the following link for help [http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html](http://www.sciencekids.co.nz/sciencefacts/scientists/johanneskepler.html)
- **Right Side** - copy and paste these images onto the paper [http://4.bp.blogspot.com/_GqGEPRWOfVA/TDs-PJSaRQI/AAAAAAAACow/6mh3ODsTjoo/s1600/Keplers_Laws3.jpg](http://4.bp.blogspot.com/_GqGEPRWOfVA/TDs-PJSaRQI/AAAAAAAACow/6mh3ODsTjoo/s1600/Keplers_Laws3.jpg) (*shrink to print!*)

### Week 15: Telescopes

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
<th>Kingfisher Science (older)</th>
<th>1st Enc. of Space (younger)</th>
<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
</table>
| pg. 66-71           | pg. 416-417                | pg. 8-11, 58-59             | #86 Focus, #87 Bouncer   | *Telescopes (Richardson)-A  
|                     |                            |                             |                         | *Adventures in Space-Flight to Fix the Hubble-O  
|                     |                            |                             |                         | *How to Catch an Elephant-Y |

**Supplies for experiments:** 1 qt. Jar, foil, flashlight, sheet of black construction paper, index card, modeling clay, scissors; flashlight, flat mirror, helper, modeling clay

**Vocabulary:** radio telescope, Hubble Space Telescope

**Memory work:** types of telescopes (reflecting, refracting)

- **Left Side:** list and describe the types of telescopes
- **Right Side:** print the picture on the following link and label which type of telescope each one is (cut off the answers on the bottom)

http://images.yourdictionary.com/telescope

**Scientist:** Continue reading about Carl Sagan in *Carl Sagan: Astronomer*. Read pg. 62-90. Continue the scientist notebooking pages. Use the following link to help you if necessary


### Week 16: Rockets/Satellites

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>1st Enc. of Space (younger)</th>
<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
</table>
| pg. 72-77           | pg. 418-421                | pg. 22-23                   | #31 Satellite Crash, #97 Free Fall | *Neil, Buzz, & Mike Go to the Moon-A  
|                     |                            |                             |                         | *Satellites (Deady)-O  
|                     |                            |                             |                         | *Rockets (Vogt)-Y |

**Supplies for experiments:** empty 3lb. Coffee can, poster board, pencil, scissors, glass marble, masking tape; plastic cup, string, ruler, scissors, masking tape, modeling clay, helper

**Vocabulary:** rockets, slingshot launch

**Memory work:** types of orbit (polar, geostationary, eccentric, circular)

- **Left Side:** list and describe the orbit types
- **Right Side:** print the image on the following page and label the orbit types

http://www.clipart.dk.co.uk/1363/subject/Physics/Types_of_orbit

**Scientist:** Finish reading about Carl Sagan in *Carl Sagan: Astronomer*. Read pg. 91-108. Finish the scientist notebooking pages. Use the following link to help you if necessary

### Week 17: Life in Space

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
</table>

**Supplies for experiments:** string, ruler, washer, scissors, 1 paper towel, book, masking tape; marker, masking tape, 2 rubber bands, string, large rock, large pot or bucket, scissors  
**Vocabulary:** spacesuit, space walking  
**Memory work:** Neil Armstrong's quote (“That's one small step for (a) man, one giant leap for mankind”)  
  - **Left Side** - copy the quote in your best handwriting  
  - **Right Side** - draw a picture of what you think the first moon landing may have looked like

### Week 18: Future in Space

<table>
<thead>
<tr>
<th>Stars/Planets (all)</th>
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<th>Experiments (Astronomy)</th>
<th>Extra Reading Books</th>
</tr>
</thead>
<tbody>
<tr>
<td>pg. 82-83</td>
<td>pg. 424-425</td>
<td>pg. 24-25</td>
<td>#99 Space Suit, #100 Sweaty</td>
<td>*The International Space Station (Branley)-A *The Amazing International Space Station-O *Women in Space-Y</td>
</tr>
</tbody>
</table>

**Supplies for experiments:** sealed bottle of pop, clear drinking glass; jar with a lid  
**Vocabulary:** orbiting power stations, space cities  
**Memory work:** distances from other planets to Earth  
  - **Left Side** - use the following link to write the distances from other planets to Earth  
  [http://wiki.answers.com/Q/How_far_are_the_planets_from_earth](http://wiki.answers.com/Q/How_far_are_the_planets_from_earth)  
  - **Right Side** - draw a rocket you would use to get to another planet